



17 June 1970

STATINTL

To:

From:

Subject: SP-1622, "Test of Ejection Seat Canopy
Breaker Extension"

Enclosed are three copies of subject report. More will be made available if requested.

From these tests, there is no doubt that the extended canopy breaker will in fact break through the canopy allowing successful ejection. However, in comparing the areas of the canopy removed on these tests with the area of canopy removed on the original seat breaker test, it is obvious that the original breaker, having more area, removed more plexiglass than the new extended breaker.

Another area of concern is the added thickness to the new seat cushion proposed by Det. G. (This seat cushion contains the addition of the walk-around sleeping bag plus a nylon rope to descend from trees.) We feel that the added thickness (2 5/8") to the seat cushion and the softness of the packing are not the optimum method to apply the catapult loads to the pilot. The deep soft cushion allows the pilot to remain relatively still while the seat is gaining velocity. The result is that the catapult catches the pilot with a higher relative velocity than if the cushion were shallow and firm.

Another concern with the thicker cushion is the added difficulty of the shorter pilots or those with relatively short arms in reaching the controls and more important the D-ring, especially in the inflated suit condition.

In light of the above, we recommend strongly against the breaker extension and also the softer thicker seat cushion. Your comments are solicited.

Regards,

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cc: